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AUTHOR Sherry, Annette C.; Burke, William F.
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ABSTRACT

The effectiveness of an evaluation model for interactive television courses was studied. Inquiry was conducted with distance education graduate students using a structured, open-ended questioning format to obtain their authentic voices about a traditional model: Small Group Instructional Diagnosis (SGID), a facilitator-based model how to open the lines of communication between faculty and students. Subjects responded to three questions: what helped their learning in the program?; what hindered their learning?; and what changes would be suggested? At the conclusion of two courses in Telecommunications and Technology for Teachers, participants were asked to evaluate this SGID process using a version of SGID modified for delivery as a computer-mediated communication. Analysis of students' on-line comments and administrative actions indicated that SGID is effective for these students. Participants had a high level of comfort in sending messages to each other, the instructor, and a discussion list. Student interaction between the process and facilitator was cited as an important aspect in the helpfulness of the process. Items on hindering student interactions with the process were identified by more remote students than by those on campus. On-site students were more apt to indicate no interactions hindered the process and that no changes were needed. Administrators demonstrated change activity. These results are consistent with the data on SGID and have potential for those evaluating graduate courses delivered by two-way audio and video. (Contains 27 references.) (Author/MAS)

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Applying an Interactive Evaluation Model to Interactive Television

Authors:

Annette C. Sherry and William F. Burke
University of Hawaii at Manoa

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Abstract

The effectiveness of an evaluation model for interactive television courses was studied. Inquiry was conducted with distance education graduate students to obtain their authentic voices about a traditional model: Small Group Instructional Diagnosis (SGID), a facilitator-based model. Analysis of students' on-line comments and administrative actions indicated that SGID is effective for these students. Student interaction between the process and facilitator were cited as important in the helpfulness of the process. Items on hindering student interactions with the process were identified by more remote site students than by those on campus. On-site students were more apt to indicate no interactions hindered the process and that no changes were needed. Administrators demonstrated change activity. These results are consistent with the data on SGID and have potential for those evaluating graduate courses delivered by two-way audio and video.

Applying an Interactive Evaluation Model to Interactive Television

Introduction

The use and the effectiveness of student evaluations concerning course offerings and instructor effectiveness have been documented in both distance education and traditional classroom settings. Numerous studies of distance education incorporate student evaluations as one or more of the tools used to assess course effectiveness (Dillon, Gunawardena, & Parker, 1992; Schlosser & Anderson, 1994; Wagner, 1993). Maitino's review of current research on student evaluation of college instruction in traditional classrooms (1992) supports the reliability and relevancy of such data.

In 1979, Clark and Bekey refined a University of Massachusetts clinical model that provides mid-semester evaluative feedback to the instructor based on oral information given by small student groups to an external, trained facilitator who spends one class period alone with the students. During the period, after separating the students into small groups, the facilitator directs all the students in each group to provide answers to two questions about everything that helps and hinders their learning in the course. A third question is also posed that asks for their input on any needed changes. After a recorder from each group provides all the responses, the facilitator leads the class in clarifying the responses to assure mutual agreement on meanings. The class then votes on each response, indicating the degree to which each student supports each item. After the class session, the facilitator meets with the instructor, providing the ranked results of the student responses, interpretative comments, and suggestions for improving instruction.

This process, the Small Group Instructional Diagnosis (SGID), that has appeared in the literature on teaching effectiveness as one type of evaluation technique, has been shown to open the lines of communication between faculty and students and (Seldin, 1988).

Recently there has been an increased interest in conducting research that encourages the application of research methods that produce results leading to immediate change and supporting improved practice in teaching. While there is debate over the distinction between practical classroom inquiry and "teacher as formal educational researcher" (Richardson, 1994, p. 7), a distinguishing feature of the latter is applicability of results to a broader community. Such qualitative studies have the potential of providing researchers with opportunities for describing natural habitats as they are with minimal disturbance; providing insights to existing themes and addressing immediate needs.

No one source of data is sufficient for evaluating the efficacy of an instructional situation (Seldin, 1988). While a concern facing those engaged in qualitative studies is structuring and validating the resulting data, triangulation is an approach that lends support to the analysis. Through comparisons of interview data with observational data and anecdotal reports, and by investigating participants' comments and behaviors, patterns can often be seen to emerge that support hypotheses, or lead to revised insights (Patton, 1987). This study, while based primarily on data gathered from student reports on their perceptions of the effectiveness of a formalized evaluation process, also provides data from actions of the stakeholders: program administrators, faculty members and Department of Education teachers.

A structured, open-ended questioning format familiar to the distance education students was selected to provide a vehicle in which their authentic, diverse voices could be heard as they provided their perceptions of learning in two distance education courses.

In the body of work on distance education, the emphasis on evaluating the impact of distance education courses can be categorized as:

- Comprehensive: The overall approach and design of evaluation of distance education (Thorpe, 1988; Zvacek, 1994).
- Administrative: The uses of distance education (Dillon, Gunawardena, & Parker, 1992) and its costs (Willey, 1991; Zvacek, 1994).
- Instructional Design: The study of student learning in terms of suitability of courses (Willey, 1991) and student perceptions of interaction (Fulford & Zhang, 1994).
- Learner Achievement and Attitude: The factors contributing to student success and positive attitudes in distance education situations (Dillon, Gunawardena, & Parker, 1992; Lauzon, 1992; Schlosser & Anderson 1994; Verduin & Clark, 1992; Walker & Hackman 1992; Willis, 1991).
- Technical: The effectiveness of distance education courses in terms of delivery systems (Egan, Welch, Page & Sebastian, 1992; Schlosser & Anderson, 1994).

Among the emerging trends in distance education (Birenbaum, Glick, & Kinsler, 1994), is the continued emphasis on examining the effects of distance education on the learner. This study used such a focus— with the focus on learners who were involved in a new cooperative distance education university and school department partnership. By employing a broadly structured, open-ended format for obtaining data from the learners, this study allowed student input in any of the areas for evaluating distance education: comprehensive, administrative, instructional design, learner achievement and attitude, and technical. Given the structure of the inquiry, one anticipated outcome was that the resulting data would have an emphasis on learner related issues, a result which was supported. Similar to studies by others in the field of distance education research (Holmberg & Bakshi, 1992; Walker & Hackman, 1992; Kember, Lai, Murphy, Siaw, & Yuen, 1992), this study relied on a survey for gathering information from the participants.

At the University of Hawaii, Small Group Instructional Diagnosis has been employed for the past five years by its Center for Teaching Excellence, a unit within the Office for Faculty Development and Support. At the mid point of the semester in traditional, intact classes throughout the campus, trained faculty and teaching assistants from the Center assist faculty in assessing the effectiveness of their courses by obtaining student perceptions about their learning. In addition, since 1969, when the University of Hawaii offered the first college credit course delivered by satellite, the university has been developing its interactive television facilities. The Hawaii Interactive Television System (HITS) currently delivers a wide range of courses at the undergraduate and graduate levels using a technologically advanced delivery system that incorporates two-way audio and video at its origination site on the island of Oahu and at its receive sites on the neighbor islands of Kauai, Hawaii, and Maui. To date, evaluation of HITS courses and programs has been accomplished through written responses provided by both students and HITS instructors in end-of-semester questionnaires. None have incorporated the unique interactive feature offered by HITS into the evaluation process.

With the SGID model and HITS at the University of Hawaii, the resources were available for undertaking a preliminary investigation of the effectiveness of applying an interactive classroom evaluation procedure, SGID, to introductory courses in a cluster of five Department of Educational Technology (ETEC) graduate courses, entitled Telecommunications and Technology for Teachers (T^3), delivered via interactive television. Although the SGID model has been used in traditional class settings, it had not been used in a distance education class at the University of Hawaii and no instances of its use in other distance education classes were discovered.

The department faculty determined to apply the SGID at mid-semester to the T^3 program to obtain timely feedback on the program and to assess the effectiveness of this evaluation technique in a distance education setting.

Questions under investigation were:

Question 1: Would a modification of the SGID, delivered as a computer-mediated communication, provide data of sufficient quality and quantity for use in a study of SGID as a distance education evaluation process?

Question 2: Would a cohort of graduate students enrolled in a cluster of distance education courses differ in their perceptions of a course evaluation process, the Small Group Interactive Diagnosis? Would those perceptions be influenced by receive site location; by effects of two-way audio and video during group reports to the entire class; by the effects of video graphics used for ranking results of small groups reports; and by the large group sizes that some sites may have during the SGID?

Question 3: Would the results of the process be available for program administrators and instructors in a timely manner, allowing for program and course revisions?

Methods and Procedures

Subjects

The population for this study consisted of a cohort of fifty Department of Education teachers and specialists enrolled in the first two of five graduate level, courses that comprised the Telecommunications and Technology for Teachers (T^3) Program. The T^3 courses were scheduled two nights per week for the fall and spring semesters of 1993-1994, with the final course scheduled in the first 1994 summer session. While these courses were part of the graduate program offered within the Department of Educational Technology at the University of Hawaii, they did not of themselves comprise an official program of study. The Department of Education acknowledged the completion of the five courses with a T^3 Certificate of Completion, which led to the informal designation of the courses as the T^3 Program.

Students were located at three remote sites: the islands of Maui, Kauai, and Hawaii. T^3 students were also present at the main campus transmission site on the island of Oahu. Ninety percent of the cohort, 45 students: 21 from the on-campus site and 24 from the remote sites, participated in the Small Group Instructional Diagnosis during the ninth week of the 15 meeting cycle. Following the SGID protocol, a trained, external facilitator met with the students for an entire class period without the presence of the instructors. The students actively analyzed the effectiveness of the first two courses in the T^3 Program by responding to three questions about what helped their learning in the program, what hindered their learning in the program, and what changes they would suggest for the program.

At the conclusion of the two courses, the participants were asked to evaluate this SGID process using a version of SGID modified for delivery as a computer-mediated communication.

Eighty-seven percent of the 45 mid-semester participants participated in this evaluation: 19 from the on-campus site and 20 from the remote campuses. These 39 students formed the sample for this study. Characteristics that the sample have in common with all distant education populations are their adult status and the predominance of females, 82%. Their wide ranging ethnic backgrounds, while typical for the state of Hawaii, are not typical of other distance education students. This study is limited by its intact population.

Measures

Computer Mediated Communication SGID: The quantity and quality of responses to the on-line delivered survey questions were assessed by amount and quality of information conveyed. A response rate indicative of 75% was established as a way to assess the quantity of the returns (Seldin, 1988). Response quality was assessed by the degree to which the respondents provided usable information for each of the three questions.

Perceptions of the SGID: To assess the extent to which the subjects differed in their perceptions of SGID, a modified version of the SGID process itself was used. As a qualitative measure, it has no reliability coefficients; its construct validity is attested to by use by others since 1979 (Clark & Bekey, 1979; Seldin, 1988; Theall & Franklin, 1990). The overall impact of the SGID was assessed through a comparison of the number of responses for each of the three questions in relation to positive responses.

The three questions designed to elicit open-ended responses about the positive and negative aspects of the evaluation process, as well as to elicit suggestions for changes in SGID, were sent to the on-line T^3 discussion list. The request and survey were transmitted to the T^3 students on the discussion list that had been established and extensively used throughout both courses. To participate in the study, the students had to have participated in the SGID administered at mid- semester. Responses were sent to the primary researcher. Attesting to their interest in evaluating the process, in addition to responding to the researcher, over 40% of the respondents elected to send a copy of their responses to the T^3 discussion list, following the T^3 program protocol of sharing information of general interest with all participants.

Patterns of concepts and frequency of words and phrases related to the variables of site, effect of delivery mode/graphic display, and group size were set as the way to interpret responses related to those variables.

Program Impact: To study the impact of the results of the SGID on the T^3 Program, the log of administrative actions occurring after reception of the SGID results was analyzed by types of actions.

Data Analysis

Question 1: To assess the viability of using the on-line generated responses, the response rate was computed for both inter group and total group and compared to the minimal desired rate of 75% (Seldin, 1988).

Question 2: To assess differences in the perceptions of the distance education students at both the on-campus and remote sites, student responses relevant to the three SGID questions were carefully reviewed, separated into discrete phrases, coded, and entered into a database and analyzed.

During the preliminary analysis of the phrases, a conceptual framework emerged that appeared related to the three interactions identified by Moore (1989) regarding distance education settings. His "learner-content interaction" emerged as "learner-format interaction" for this analysis. Participants' responses, such as, "The three questions were to the point," were placed in this category. Moore's "learner-instructor interaction" emerged as "learner-facilitator interaction" with the facilitator referring to the person who conducted the SGID. Statements, such as, "having a patient and objective facilitator," were identified as learner-facilitator interactions. No changes in the semantics for Moore's "learner-learner interaction" category were deemed necessary. Statements, such as, "being able to see the number of students that agreed with my feelings," were identified as learner-learner interactions.

The plausibility of this coding was tested with an expert panel, consisting of the researchers and an external evaluator. The researchers provided deep understandings from their immersion in the setting; the independent expert provided an unbiased view and knowledge as an evaluation specialist. Response categorizations, made independently by the expert panelists for all items, revealed a high degree of inter-rater agreement with the fit of Moore's modified typology. Those items not agreed upon were discussed, resulting in mutual agreement on the categorization of all items.

Further analysis within the typology was carried out with like words and phrases within the database. For example, "continue" and "don't change" were considered synonymous.

Question 3: To analyze program activity generated by the results of the SGID, related occurrences were analyzed by investigating the data arrayed on a timeline.

Results

Question 1: The results revealed a response rate of 87% for all sites, with an on-campus site response rate of 90% and a remote site response rate of 83%. All response rates exceeded the standard set for a minimal 75% return rate, thus, providing sufficient quantity of data for analysis. As indicated in Table 1, the data was relevant to the three SGID questions. Of the 213 types of responses, only 6 items were not applicable to the three questions: "What helped the evaluation process?" "What made the evaluation process difficult?" "What recommendations do you have for changes for the mid-semester Small Group Instructional Diagnostic process?" Both the overall high return rate, 87%, and the number of usable items, 207 out of 213, indicated that the computer mediated communication was an effective process for gathering data for this study from participants who were all active in their use of on-line communications. These participants were characterized as having a high level of comfort in sending messages and to each other, to their instructors, and to the T^3 discussion list. The response rate may not be replicable for new on-line users or for users who are not used to corresponding with their instructor in this manner.

Question 2: To determine any differences between the on-campus and remote site participants, within group percentages for responses were calculated and compared. As indicated in Figure 1, few differences were reflected by respondents. Approximately 50% of the comments referred to the helpfulness of the evaluation process, regardless of the location of the respondent. Less than 26% referred to hindrances, or need for modifications, for SGID. An examination of Table 1 reveals that some differences do appear within sub categories of the three main categories, with the most marked differences appearing in relation to hindering interactions. At the remote sites, 74% of the responses given by the participants, such as, "Towards the end of the session, we felt pressed for time," were categorized as being learner-process interactions, in comparison to only 50% of this type of comment being given by participants at the on-campus site.

A new type of sub category emerged; one reflecting, "no problems". While actual numbers are small for meaningful interpretations of this subcategory, it is interesting to see the patterns that appeared within both the hindering interactions and changing interactions categories. At the on-campus site, a total of eight comments, such as, "I don't think that there was anything that made the process difficult," in the hindrances group and eight, such as, "I would recommend we continue to have mid-semester diagnostic

feedback sessions," in the modifications group were made. In both instances, however, only two or less were made at a remote site. The remote site also offered 18% more comments on ideas for changes related to learner-process interactions than did the on-campus group. These comments included, "Perhaps a faster way of counting the 'votes' for each of the items. Maybe using the fax machine to facilitate this." "Also, perhaps limiting each group to 3-5 answers to each question. I think this would eliminate some answers that were repetitive and some that were 'off the wall' and subsequently received few votes."

After categorization of items by the panel into types of interactions, like items were further collapsed to create items of similar concepts, so that "professional manner", "professionally done", "excellent job", and , "leadership skills" were categorized as overall skills of the facilitator. These items were ranked by sites based on frequency counts within groups. The results of this ranking, displayed in Tables 2 through 4, show, that regarding helpful interactions, strong agreement was reflected at all sites regarding the excellent overall skills of the SGID facilitator. This item was mentioned more than any other for all groups, as well as by the remote site group. For the on-campus group, this item was in a three-way tie for first place with "the facilitator's ability to create a supportive atmosphere" and in the learner-learner interaction subcategory, with "professionalism of the group". Tables 2 through 4 provide a comparison of items that respondents cited most frequently. Unanimity was reached across groups on hindering interactions within the learner-process interaction subcategory with "the amount of time for the process" being the most frequently mentioned item being perceived as a problem and, similarly, in the change interactions category with "conducting earlier in the semester".

An analysis of the number of times that specific references to any constraints imposed on the evaluation process by the effects of two-way audio and video on the group reports and of the video graphics used to display the group reports for voting, showed that these items received specific mention only once each at the remote sites and no mention at the on-campus site. The remote site comments were: "It was difficult not being in the same room because comments were made that [were] not stated openly." "TV made it difficult to keep track of all the comments since all of the writing had to occur on the elmo [visual presenter]. Still this is a limitation that cannot be helped." One positive comment was received from a remote site in regard to the visualization of the group's ideas: "I also think it helped that [the facilitator] wrote down all the ideas and paraphrased to ensure agreement."

There were more items related to the large group sizes with five comments, 6.8%, from the on-campus site regarding learner-learner interaction problems: "I did notice some people did not volunteer much for discussion. It was their choice though." The remote sites offered three negative comments, 5.3%, in this regard. A typical comment was, "The group was a little too large." At the same time, both the on-campus and remote site participants made ten comments, 13.5% and 17.5% respectively, regarding the helpfulness of the learner-learner interactions: "I liked how it was directed and that we were broken up into groups so our 'voices' could be heard collectively". "Group memory kept the group focused on the tasks." These results indicate, that for these participants, the issue of technical issues and group size were not predominant concerns.

Question 3: To analyze the data in relation to question 3, to see if the results from the Small Group Instructional Diagnosis provided results in a timely manner to allow for program and course revisions, the activities that the process engendered were plotted on a timeline. Figure 2 shows the increase in activity immediately prior to the administration of the SGID, and the subsequent activity following the process. Of particular note is the appearance of the Task Force on the Technology Specialist. This Task Force, charged with the examination of the actual role of the proposed new Department of Education (DOE) specialization, had been discussed at prior meetings, but the SGID provided the impetus to bring stakeholders from both the ETEC Department and the DOE together to identify the skills needed by someone in this proposed position. The ETEC Department also used the results of the SGID for long-range and short-range planning. Based on SGID data on course scheduling, courses for the following semester were scheduled in tandem rather than concurrently. For the long term, the ETEC Department began re-examining the courses selected for the program in light of the new scheduling, with plans for a seminar session to be interwoven throughout the courses.

Discussion

In this study, a model for evaluating two distance education courses that formed part of a program of study, was investigated. The range of data obtained from the distance education participants supported the recommendation from a study of seven distance education courses in Hong Kong (Kember et al., 1992) that others include more than one course in their evaluation to provide a broader range of input. Although the

Kember et al. study used a mix of qualitative and quantitative methods, their qualitative data was used more extensively in their analysis.

Time constraints posed limits on the manner in which this computer mediated communication version of the SGID, used for gathering data on the actual SGID, was executed. The facilitator role of restating and clarifying items which could have been attempted on the class discussion list, was omitted in the on-line version because of the time constraints imposed by the approaching end of the semester.

This study provided a connection to the everyday world of educational practice. The high response rate to the on-line SGID, in less than three weeks by the Distance Education students, reflected the appeal of this modified version for data gathering, supporting Reinharz's endorsement for using "special techniques that are "unobtrusive measures" (1993). His support for having good pre-conditions for a specific method was supported by the familiarity and positive attitudes of the participants, toward on-line communication. Lauzon (1992) also supports on-line communication as an excellent medium for meaningful interactions between learners and facilitators, instructors, and each other. A version of SGID modified for use as a computer mediated communication did provide useful information for this qualitative study.

Analysis of the comments was carried out by the expert panelists, using the students' language to tell what was considered important, requiring reliance "on their own intelligence, experience and judgments" (Patton, 1987, p. 154). The use of Moore's typology (1989) that emerged from the analysis of the authentic voices of the participants, gave structure to the analysis of the items and, thus, guidance for replicating this study.

Identifying a modification of Moore's typology, instead of creating their own, also gave the authors a way of portraying the students' views in a manner that addressed, to some degree, the potential for bias that could arise for the authors in their dual roles as participants throughout the SGID process and as authors of the study. The external member of the codifying panel attested to the validity of applying the adapted version of Moore's typology.

The emergence of three categories of the interactions of learner-format ("learner-content" in Moore's categorization), learner-facilitator ("learner-instructor" according to Moore) and learner-learner supports the distinctions being made in the field of distance education of the importance of identifying typologies for interactions. Such schemata lead to improved communication and study within the field (Moore, 1989). It is of note that two types of responses did not fit his typology; these responses are the items that were cited when participants were asked to name hindrances or changes to interactions. The responses of "no hindrances" and "no changes" were noted in separate categories established to accommodate this type of response.

The data from this study suggests use of the Small Group Instructional Diagnosis as an effective evaluation model for distance education students enrolled as a cohort in graduate level education courses. More than 50% of the response items related to factors that helped the process, regardless of the site; with only 21% of the items at the remote sites and 16% of the items at the on-campus site related to items that interfered with the process. This finding supports an earlier evaluation (Clark & Bekey, 1979) of the process. In Clark & Bekey's evaluation of the effectiveness of SGID for students in a traditional educational setting, 80% of the participants stated that SGID was useful when asked to respond in either the affirmative or the negative.

While a little less than 7% of the distance education, campus-based students registered their enthusiasm for the SGID in statements on "continuing/not changing the process" and in requests "for using the process" in their roles as teachers, no similar remarks were noted from the remote site students. The remote site participants made quantifiably more hindering interaction statements than the on-campus participants, although both types of participants identified "the amount of time for the process", "time limits", and "peer pressure" as their top concerns. The remote site participants expressed a greater range of comments, from statements such as "the voting didn't quite express the ideas", "negative feelings", and "versions varied by site". This wider range could be indicative of differences that may have occurred from aggregating the responses from three different remote sites into the sole category of "remote site" and from two of the remote sites having less options for forming varied groups than the on-campus site and the third remote site, both of which could accommodate three groups of seven .

The size of the groups, most of which consisted of seven participants, and as such violated by one person the maximum number recommended for groups in the SGID (Clark & Bekey, 1979), may account for the concerns expressed about time. The additional person may impact the amount of time available for optimal learner to learner interactions.

Although reports of SGID may omit mention of, or not stress, administration by a trained facilitator (Theall & Franklin, 1990; Seldin, 1988), the presence of a trained, external facilitator was the factor students in this study most strongly supported; a factor also identified as critical in the work of Clark

and Bekey (1979). Having the opportunity to express ideas; anonymity; satisfaction in knowing the results would be listened to by the stakeholders in the program; and having clear guidance for the process were themes that appeared in comments in both this study and in Clark and Bekey's work. In regard to the closely related topic of interaction between learner and instructor, Dillon, Gunawardena, & Parker (1992) found that such interactions, during class time, were viewed as the most important form of interaction with the distance education students they studied.

Although Clark and Bekey's procedure for administering the SGID requires that the facilitator's visit not be announced in advance to avoid student absences by some who might feel strongly about the class, unlike Clark and Bekey's process, SGID at the University of Hawaii, provides prior notice. This study followed that pattern, with no change noted in the attendance patterns. The participants in this study provided further support for the idea of prior notice, by recommending that the three questions be distributed prior to the process.

Students offered few comments on the audio and video delivery system, despite Walker & Hackman's finding (1992) that clear audio and video were significant factors for distance education students. Given the ease and technical sophistication with which the HITS delivery system functions at the University of Hawaii, this finding was not unexpected for these students.

Following guidelines for using evaluations for improving instruction (Maitino, 1992; Theall & Franklin, 1990), the direct effects of the SGID results were the inter and intra university and school departmental meetings to hear the results of the SGID and to plan for recommended changes. While many factors figured in the advancement of tentative plans for developing a technology specialist certificate within the Department of Education and the concomitant graduate level training, an examination of the timeline in Figure 2 shows the close proximity of the major thrust of that work to the SGID. The university and school stakeholders focused formally on a Task Force charged with identifying needs and defining the role for such a professional after receiving the results of the evaluation process.

Implications

While some studies show linkages of student achievement to students' ratings of courses (Cohen, 1981), others (Byrne, 1992) question the validity of using such data, because of the dangers inherent in obtaining reliable estimates of coefficients from small samples, particularly if employment decisions for instructors are based on such results. Given the small number of participants and lack of legal access to student grades, this study made no attempt to examine the relationship between the students' ratings and their academic achievement in the courses. Future researchers with larger samples may wish examine such quantitative data in relation to the qualitative data the SGID provides. The results of this study should be interpreted with caution as a descriptive study of informal linkages.

Others may wish to draw upon the ease with which the methods employed in this study obtained cooperation from the participants and with the ability to gather a wide range of perspectives.

The pattern that emerged from this research is the critical role the facilitator plays in SGID. Future studies need to further investigate the significance of this effect.

In light of the recognized importance of perceived interactivity to distance education student satisfaction (Fulford & Zhang, 1994), future studies may also wish to investigate the relation of SGID in contributing to student perceptions of interactivity within their distance education environment.

The SGID provides a structure that meets guidelines for obtaining student ratings for improvement. Seldin (1988) has defined these guidelines as: asking diagnostic questions; having open-ended response format support feedback on an infinite variety of factors; maintaining confidentiality for instructors; providing questions that students are capable of answering; encouraging instructors to actively participate by adding any specific questions they may have; being able to use other evaluation instruments; supporting comprehensive student involvement; and providing written comments. SGID accommodates all these guidelines.

The assessment of student attitudes toward their distance education milieu is one of the factors that continues to appear in the literature on distance education (Thorpe, 1988; Wagner, 1993). This study attempted to link research and evaluation of distance education in the area of student learning in relation to graduate level in-service teachers located on four islands in Hawaii.

Given the factor that college courses delivered by television reach more adult students at more colleges than any other type of technology-based course (Brock 1991), there is a need to continue investigating evaluation methods for such distance education courses. To fill the continuing need for rigorous practical research on assessment for distance education (Holmberg, 1991), future studies with diverse distance education

populations could be designed to employ Small Group Instructional Diagnosis, which, with its potential for gaining broad insights into students perceptions and attitudes about distance education courses, in combination with quantitative measures, has the potential for providing additional insights into student satisfaction in distance education settings.

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Author Note

Annette C. Sherry, Department of Educational Technology, College of Education, University of Hawaii at Manoa; William F. Burke, Center for Teaching Excellence, University of Hawaii at Manoa (now at the Biology Program, University of Hawaii at Manoa).

This study was conducted to obtain information on the effect of the Small Group Instructional Diagnosis for use not only within the college and within the university's Center for Teaching Excellence, but to encourage others to investigate its effectiveness in studies on improving learning.

Bill Burke and I would like to thank the members of the T^3 cohort for their time and thoughtful responses as they participated in this study.

Correspondence concerning this article should addressed to the principal investigator, Annette C. Sherry, Department of Educational Technology, College of Education, 1776 University Avenue, Wist 231, Honolulu, Hawaii 96822. Electronic mail may be sent via Internet to asherry@uhunix.uhcc.Hawaii.Edu.

Table 1

Typology of Student Reactions to Small Group Instructional Diagnosis Model by Sites

Types of Interaction in Evaluation Process	Sites					
	All		Campus		Remote	
Helpful Interactions						
Learner-Process	44	(41.0)	23	(44.2)	21	(37.5)
Learner-Facilitator	44	(41.0)	19	(36.5)	25	(44.6)
Learner-Learner	20	(18.5)	10	(19.2)	10	(17.2)
Hindering Interactions						
Learner-Process	28	(62.2)	11	(50.0)	17	(74.0)
Learner-Facilitator	1	(2.2)	0	(0.0)	1	(4.3)
Learner-Learner	8	(17.7)	5	(22.7)	3	(13.0)
None	8	(17.7)	6	(27.3)	2	(8.7)
Change Interactions						
Learner-Process	46	(85.2)	24	(77.4)	22	(95.7)
Learner-Facilitator	0	(0.0)	0	(0.0)	0	(0.0)
Learner-Learner	0	(0.0)	0	(0.0)	0	(0.0)
No Changes	8	(14.8)	7	(22.6)	1	(4.3)

Note. n is based on number of items, not respondents. n = 207 for all items.
n = 105 for on-campus items. n = 102 for remote campus items. Percentages figured on 100% for the three main types of interaction appear in parentheses.

Table 2
Ranking of Student Comments Concerning Distance Education Evaluation Model Related to Types of Interaction by Site: Helpful Interactions

Types of Interaction in Evaluation Process	Rank by Sites		
	All	Campus	Remote
Helpful Interactions			
Learner-Process			
Structured questions	1	2	1
Opportunity to express ideas	2	1	–
A third party guide	–	–	2
Non-threatening environment	–	–	2
Meaningful dialogue focused on improvement	–	–	2
Learner-Facilitator			
Overall Skills: professional/excellent/leadership	1[a]	1[a]	1[a]
Atmosphere Creation Ability: supportive of participation/neutral/comfortable/opportunities to respond	2	1[a]	–
Facilitation Skills: explicit in instructions/everyone kept on track	–	–	2
Mediation Skills: objective; effective mediator/ honest/non-judgmental	–	2	–
Learner-Learner			
Hearing ideas of others/group memory/collective voices/unanimity/learning from each other	1	2	1
Professionalism of groups	2	1[a]	2

[a]Most frequently mentioned item within all types of Helpful Interaction categories. Rank based on frequency count of items for All Sites, n = 207; for On-Campus Sites, n = 105; for Remote Sites, n = 102.

Table 3
Ranking of Student Comments Concerning Distance Education Evaluation Model Related to Types of Interaction by Site: Hindering Interactions

Types of Interaction in Evaluation Process	Sites		
	All	Campus	Remote
Hindering Interactions			
Learner-Process			
Amount of time for process	1[a]	1[a]	1[a]
Time Limits	2	1	1
Personal feelings	2	–	2
Learner-Facilitator			
Facilitator monitor time	1	–	1
Learner-Learner			
Peer pressure	1	1	1
Feelings about self	2	–	2
No Problems			
Not difficult	1	1	1

[a]Most frequently mentioned item across all types of Hindering Interactions categories. Rank based on frequency count of items for All Sites, n = 207; for On-Campus Sites, n = 105; for Remote Sites, n = 102.

Table 4

Ranking of Student Comments Concerning Distance Education Evaluation Model Related to Types of Interaction: Change Interactions

Types of Interaction in Evaluation Process	Sites		
	All	Campus	Remote
Changes Interactions			
Learner-Process			
Conduct earlier in the semester	1[a]	1[a]	1[a]
Provide the questions prior to the session	2	2	2
No Changes			
Continue/don't change	1	1[a]	–
Would like to use format	2	2	–

[a]Most frequently mentioned item across all types of Change Interactions categories. Rank based on frequency count of items for All Sites, n = 207; for On-Campus Sites, n = 105; for Remote Sites, n = 102.

Figure 1. Percentage Distribution by Sites for Items on Effectiveness of Small Group Instructional Diagnosis

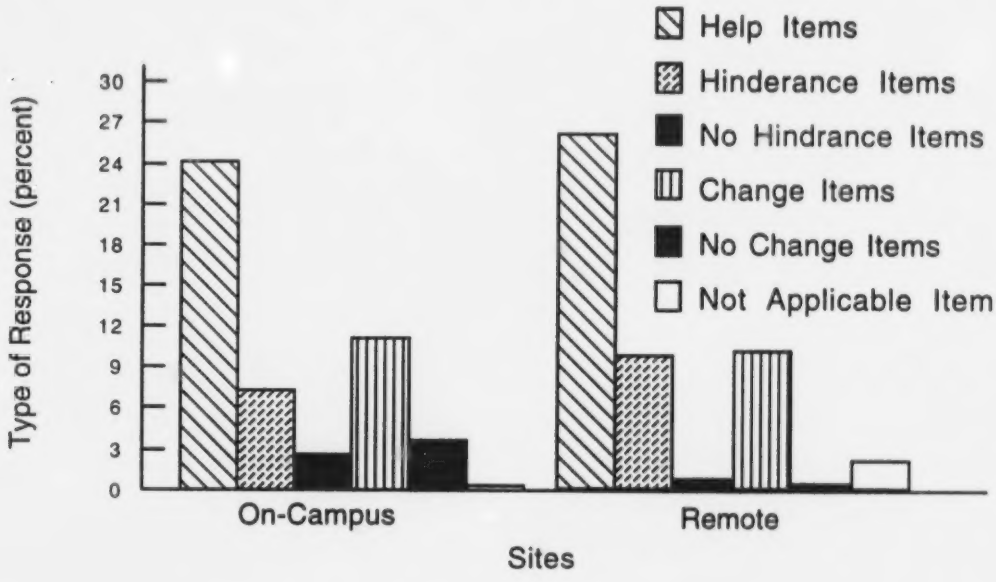
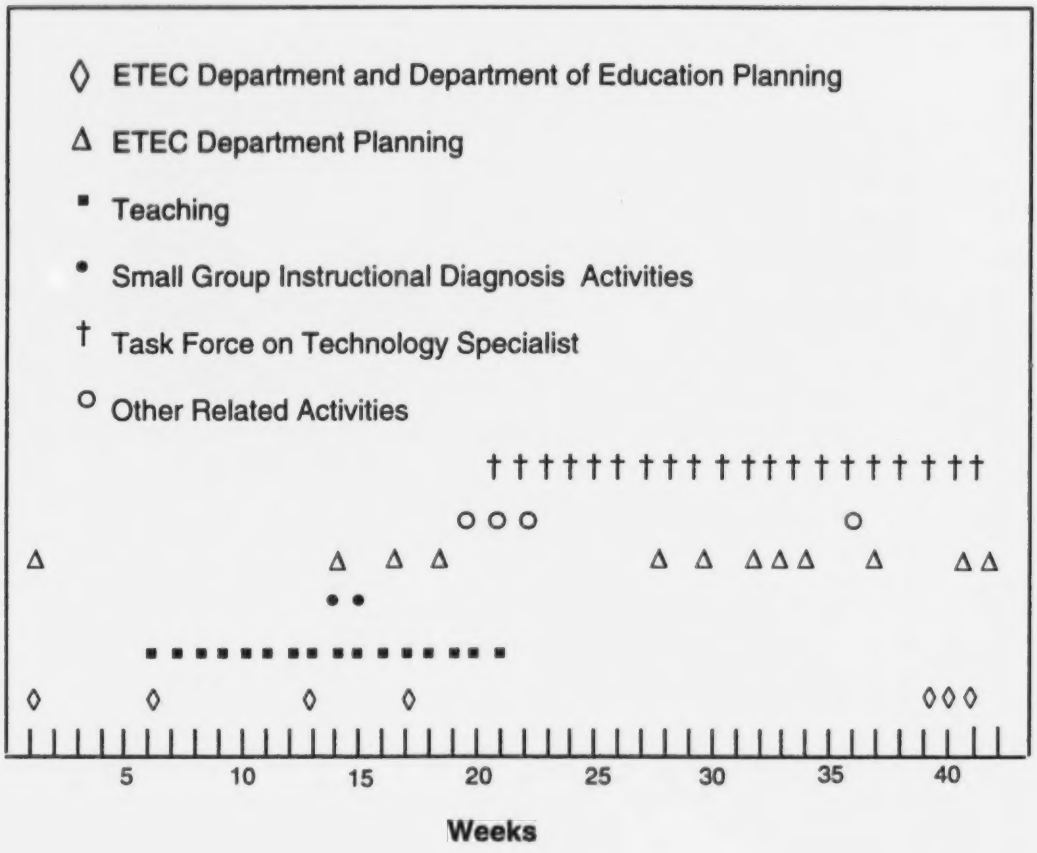


Figure 2. Timeline of Activities in Relation to Small Group Instructional Diagnosis


◊ ETEC Department and Department of Education Planning
Δ ETEC Department Planning
▪ Teaching
• Small Group Instructional Diagnosis Activities
† Task Force on Technology Specialist
o Other Related Activities
5
10
15
20
25
30
35
40
Weeks